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JUL 05 2007

PATENT APPLN. NO. 10/536,559
RESPONSE UNDER 37 C.F.R. §1.111

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REMARKS

Replacement drawings in which Figures 4 and 5 are labeled "Prior Art" are submitted herewith. Removal of the objection to the drawings is believed to be in order and is respectfully requested.

Claims 1-2, 4 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson (U.S. Patent No. 2,445,090) (hereinafter: "Thompson"). Claim 3 is rejected under 35 U.S.C. 103(a) as being obvious over Thompson.

Claim 1 has been amended to include the limitations of claims 2 and 3, and claims 2 and 3 have been canceled. Claim 8 has been amended for consistency with the cancellation of claim 2.

Amended claim 1 is the same as claim 3 rewritten in independent form. The 35 U.S.C. 102(b) rejection of the claims is now moot since claim 3 is not included in the rejection.

In the 35 U.S.C. 103(a) rejection, the Office states that Thompson discloses the invention of the present application except the limitation that $(L2-L1)/L1$ is greater than or equal to 0.03 and less than or equal to 0.15. The position of the Office is that, in the absence of unexpected results, the limitation amounts to an optimum range of a result effective variable which involves only

ordinary skill in the art, i.e., such a range is merely a design choice.

Applicant respectfully submits that the position of the Office is not correct. The limitation that $(L2-L1)/L1$ is greater than or equal to 0.03 and less than or equal to 0.15 is a critical feature of the combined oil control ring of the present invention not disclosed or suggested by the prior art and is not merely a design choice.

The present invention provides a combined oil control ring that can prevent a coil expander from falling off an oil ring body at the time of mounting the combined oil control ring on a piston without losing necessary functions of the oil ring such as oil scraping. Thus, according to the present invention, at the time of mounting the combined oil control ring on a piston, it is possible to prevent the coil expander from falling off by setting an axial distance between the inner peripheries of the inner-peripheral groove portion of the oil ring body smaller than the maximum distance $L2$, in the inner portion than the position of $L2$.

As described in the section "[Mounting confirmation test]" on pages 13 to 14 of the present application, the data in Table 1 for Examples 1-6 of the invention of the present application, show that in the mounting confirmation test regarding whether or not the coil

expander falls off the oil ring body when mounting the combined two-piece oil control ring on the piston, by forming the projecting portions such that a ratio of $(L2-L1)/L1$ is 0.03 or more, the remarkable falling off prevention effect of the coil expander is observed, whereas, when the ratio of $(L2-L1)/L1$ exceeds 0.15, it is difficult to insert the coil expander into the oil ring body.

Based on the above finding, original claim 3 of the present application includes the limitation that in the combined oil control ring [as recited in claim 2], the minimum distance $L1$ and the maximum distance $L2$ satisfy a relationship of $0.03 \leq (L2-L1)/L1 \leq 0.15$, where the minimum distance is the axial distance between inner-peripheries of the inner-peripheral groove portion of said oil ring body." The features of the present invention as recited in claim 3 (now rewritten in independent form as amended claim 1) would not have been obvious to one having ordinary skill in the art at the time the invention was made in view of the prior art including Thompson and, particularly, Figs. 6 and 7 thereof.

Removal of the 35 U.S.C. 102(b) and 103(a) rejections of the claims is believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated January 5, 2007, and is believed to place this application in condition for allowance. If, however,

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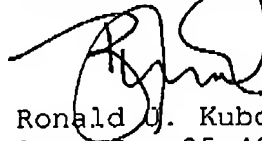
minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

In the event that this paper is not considered to be timely filed, applicant hereby petitions for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

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